

should be given an opportunity to certify that 70% of the population within an MTA is encompassed within applicable service area contours of operating station locations.^{47/} Such incumbents, who already meet and exceed the 5 year build-out requirement, should be given the market area license without being subject to competing applications.

31. This result is fully consistent with the Commission's auction authority as created in the Omnibus Budget Reconciliation Act of 1993. The Budget Act provides that

Nothing in this subsection [authorizing the use of auctions], or in the use of competitive bidding, shall...be construed to relieve the Commission of the obligation in the public interest to continue to use . . . threshold qualifications. . . to avoid mutual exclusivity in application and license proceedings.^{48/}

Thus, it is fully within the Commission's power to create a threshold qualification requirement by which only applicants who serve 70% of the population in an MTA on a particular

^{47/} Other interested parties should be given a brief period (perhaps 15 days) to file a challenge to the incumbent's showing. If the challenger demonstrates that the incumbent fails to meet the 70% threshold, the subject channel would be made available for auction.

^{48/} Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, codified at 47 U.S.C. §§309(j)(6)(E) (emphasis added).

channel are eligible to file for the "white space" that covers the remaining territory in the market.^{49/}

E. Upfront Payments

32. The Commission must rethink its upfront payment approach in order to avoid unintended consequences in the paging auction. In prior auctions, the Commission allowed applicants to check a box on the FCC Form 175 to indicate that they were interested in being deemed eligible to bid on "All" available licenses. Many applicants checked this box even if they had relatively limited objectives in the auction, either because it was simpler than identifying every particular license on which they sought to bid, or because it helped mask their bidding strategy temporarily. Applicants were then allowed to maintain their eligibility on all licenses even if they submitted an upfront payment that would only enable them to bid on an extremely small number of licenses in relatively confined geographical

^{49/} This threshold eligibility requirement should have no discernable effect on the revenues raised in the auction since there should be few if any legitimate new entrants in the auction who would choose to focus their bidding efforts on a channel that already is so fully occupied by another. Nevertheless, even if adopting this threshold requirement was to have a modest budget impact, the Budget Act specifically provides that the Commission should not base a finding of public interest, convenience, and necessity solely or predominantly on the expectation of federal revenues from the use of a system of competitive bidding. 47 U.S.C. §309(j)(7)(b).

areas.^{50/} The net effect was a large proliferation of "phantom" mutual exclusivities (i.e., situations in which certain applications were deemed mutually exclusive when in fact the applicants had no bona fide intention of bidding on the same channels in the same area). A proliferation of such phantom MXs in the paging bands will serve to delay carriers in their efforts to expand existing systems on previously licensed channels.

33. The simplest way for the Commission to solve this problem is to require applicants to identify every specific channel for which they intend to maintain eligibility in each MTA. Then, a separate upfront payment should be required with respect to each such listed channel in order to guarantee a seriousness of intent.^{51/} Specifically, the Companies recommend a minimum upfront payment of \$2,500 per channel, per MTA or \$0.02 per activity unit,^{52/} whichever is greater. This approach not only

^{50/} For example, an upfront payment high enough to allow a wideband PCS applicant to bid on the New York MTA subsumed in it eligibility to bid on all lesser markets (i.e., every channel in every market).

^{51/} This requirement is further supported by the fact that not all of the paging channels are fungible due to the differences in terms of incumbency.

^{52/} The term "activity unit" is defined as the number of megahertz of spectrum block multiplied by the population of the relevant service area, or "pops".

avoids artificial mutual exclusivities, but will serve to deter the kind of speculation that took place in the IVDS auction when the Commission failed to adopt a sufficient upfront payment requirement to deter insincere applicants.

G. Transfer Disclosure Requirements

34. The Commission tentatively concludes that the transfer disclosure requirements of Section 1.211(a) should apply to all paging licenses obtained through a competitive bidding process.^{53/} This requirement, if adopted, would generally require licensees transferring authorizations within 3 years to file all associated contracts for sale, option agreements, management agreements and all other documents disclosing the total consideration received in return for a transfer of a license. The Companies see no public interest requirement for this competitively sensitive information to be made a matter of public record.

35. At present, there is no requirement that a paging licensee file with the Commission a copy of a contract associated with the purchase and sale of a paging system. Consequently, the proposed rule would impose a new requirement. And, as proposed, an incumbent who covered the vast majority of a market with facilities prior to the auction would nevertheless become subject to the disclosure requirement if peripheral territory acquired in the market

^{53/} Notice, paras. 111-112.

area auction was then included in a subsequent sale transaction.

36. It is inconsistent for the Commission to propose an anti-collusion rule intended to prevent competitors from sharing bids and bidding strategy in the FCC auction context, while requiring those who acquire systems in the paging marketplace to disclose the same type of information to the world at large. Purchase and sale agreements can reveal considerable information regarding the manner in which an acquiring company values an existing property. In many instances, valuation techniques have been refined after much experience in the marketplace. The Companies believe that requiring the public disclosure of purchase and sale agreements on a routine basis would put a chilling effect on transactions and disrupt the marketplace.

H. Treatment of Designated Entities

37. The Commission proposes to establish special provisions in its paging rules for competitive bidding by small businesses.^{54/} The Companies believe that special bidding credits and payment terms for small businesses are

^{54/} The Commission has tentatively concluded that it is not necessary to adopt a set-aside for entrepreneurs. Arch and Westlink agree. Set-asides are inherently contrary to the open eligibility concepts so often endorsed by the Commission, and can prevent licenses from getting into the hands of carriers who value them most highly.

unnecessary. Even without such preferences, small businesses will succeed in acquiring market area licenses at the paging auctions.^{55/} Thus, the statutory objective of encouraging the participation of small businesses (including those owned by members of minority groups and women) in this communication sector will be satisfied without preferences.

38. If the benefits of bidding credits are real,^{56/} offering them to only a select group of bidders could prove to be pernicious. The paging business is highly competitive and prices to consumers are rapidly being driven by market forces toward each carriers' marginal cost. Since this is a low margin business, any disruption in the market

^{55/} A considerable number of the areas that become available for auction on particular channels as a result of this proceeding will only be of interest to incumbents because of the extent of the current build-out. In many instances, these incumbents are small businesses. Thus, without special preferences or procedures, small businesses will prevail in the auction and participate meaningfully in this communications business.

^{56/} A strong argument can be made that bidding credits do not provide any real benefit to small businesses. The results in the narrowband PCS auction clearly indicate that parties who were bidding with credits ended up bidding away their discounts by paying higher prices for licenses than did others without the credits. The net effect was that the small businesses received no comparative discount on their licenses. Consequently, the benefit of the bidding credit proved to be illusory.

which subjects one competitor to higher costs than another can have devastating competitive implications.

39. The evidence from the market clearly demonstrates that capital is available to start-up paging companies, and they can succeed.^{57/} In the face of this market reality, the Commission should not adopt special preferences for small businesses in the absence of a substantial record indicating that such procedures are necessary in order to foster a competitive paging market in which big and small companies alike are able to succeed.

V. Conclusion

40. The foregoing premises having been duly considered, the Companies respectfully request that the Commission adopt permanent licensing procedures as outlined

^{57/} Because paging transmitters operate at relatively high powers, companies can offer substantial coverage with relatively small fixed costs. The Commission previously recognized these economic realities when it eliminated financial showings in connection with paging applications. These economic assumptions are ratified by the proliferation of paging companies throughout the country.

above in order to facilitate the future development of
paging systems.

Respectfully submitted,

Arch Communications Group,
Inc.

Westlink Licensee
Corporation

A handwritten signature in cursive script, reading "Christine M. Crowe".

Carl W. Northrop, Esquire
Christine M. Crowe, Esquire
Its Attorneys
Paul, Hastings, Janofsky
& Walker
1299 Pennsylvania Ave., NW
Tenth Floor
Washington, DC 20004
(202) 508-9570

March 18, 1996

ATTACHMENT 1

Introduction

Upon close inspection of the technical issues proposed in the NPRM, Comp Comm presents comments on the formulas proposed for 929 MHz and 931 MHz paging service and interference contour distances. The following discussion comments upon the formulas proposed in the NPRM. The NPRM formulas for paging in the 929-931 MHz band were derived from a basic assumption of a 47 dB μ V/m reliable service signal strength, although it fails to present any technical foundation for this assumption. It is the Commission's position to apply equivalent regulations to similar services. A more realistic reliable service signal level assumption can be derived from the Carey Report using the same method as used for the lower paging frequency bands. This signal strength is applied to the Okumura curves and two new formulas are proposed in the discussion.

The Carey Report and Determination of the Minimum Required Signal Strength for Reliable Service

The determination of the median field strength required to support formulas for 929 MHz and 931 MHz propagation should remain consistent with previous Commission procedures used for formulas in the lower CCP frequency bands. The formulas currently used for lower band CCP as described in C.F.R. 47 § 22 were derived from the Carey Report (FCC Report No. R-6406). The Commission derived formulas designed to approximate the Carey curves based upon reliable service signal strengths, e.g., the

formula used to determine Service Area Boundary (SAB) distances for the cellular radio service is based upon a 32 dB μ V/m service contour.

The signal strength values at the reliable service contour were determined for the lower bands from the Carey Report as follows:

$$A = 105 + 10 \log P_r + 20 \log f_{MHz} \quad (\text{eq. 1})$$

where A is field strength corresponding to the receiver threshold in dB μ V/m, P_r is the receiver input power in watts, and f_{MHz} is frequency in MHz. The Carey Report assumes that the logarithm of the field strength follows a normal distribution. Accordingly, the probability P for receiving a signal with a mean (median) field strength μ is given by

$$P = \frac{1}{\sigma \sqrt{2\pi}} \int_A^{\infty} e^{-\frac{1}{2} \left(\frac{x - \mu}{\sigma} \right)^2} dx \quad \text{eq. 2}$$

where A is defined above. Using the data and definitions in the Carey Report, $\sigma_{VHF} = 8.58 \text{ dB}\mu$ and $\sigma_{UHF} = 10.92 \text{ dB}\mu$; this corresponds to a correction factor of 11 dB and 14 dB, respectively, to correct the probability from the mean value (50%) to the point of 90% reliability. In general, the receiver threshold is determined by either the receiver sensitivity or the noise floor associated with the frequency band under study. The 930 MHz frequency band has a very low noise floor and the receiver sensitivity can be used to determine the required signal strength for reliable service. Probability theory, as demonstrated in the Carey Report, uses this figure to determine the 50% value for reliable service, as determined by equation 1. This is then corrected to a 90% value by utilizing the 14 dB correction factor calculated using $\sigma_{UHF} = 10.92 \text{ dB}\mu$ as outlined above..

Using equation 1 of these comments, and the assumptions outlined above, with a typical receiver sensitivity of 0.35 μ V for a 931 MHz pager, the required field strength at the receiver is calculated to be 19.38 dB μ for a 50% reliability value. This value is corrected to the 90% reliability value as outlined above to a 33.38 dB μ value for reliable service.

In order to determine the required signal strength to the interference contour, the desired-to-undesired signal ratio must be determined from the following equation in the Carey Report:

$$\text{Desired} - \text{to} - \text{Undesired} - \text{Ratio} = 6 + (14^2 + 14^2 + T_u^2)^{1/2} \quad \text{eq. 3}$$

where 6 is the acceptance ratio, and T_u is the time fading of the interfering signal. T_u is usually small and can be neglected. For 930 MHz, this calculation provides for a desired-to-undesired ratio of 25.8 dB, which corresponds to the value of 26 dB as determined by the Commission. Using this calculated value, the signal strength for the undesired signal must not exceed 7dB μ .

Formulas Based on the Assumptions of 33 dB μ V/m Service and 7 dB μ V/m Interference Contours

As discussed above, the 929-931 MHz paging service contour formula should be based upon a median receive signal strength of 33 dB μ V/m. The interference contour formula, separated by desired-to-undesired signal ratio of 26 dB, should be based upon a signal strength of 7 dB μ V/m. These values are used in the Okumura curves and formulas

which approximate the Okumura distance are determined. The following formulas are proposed to define contour distances for 929-931 MHz paging service:

$$d_{Service(km)} = 0.46 \times haat_m^{0.48} \times erp_w^{0.30}$$

$$d_{Interference(km)} = 4.75 \times haat_m^{0.36} \times erp_w^{0.18}$$

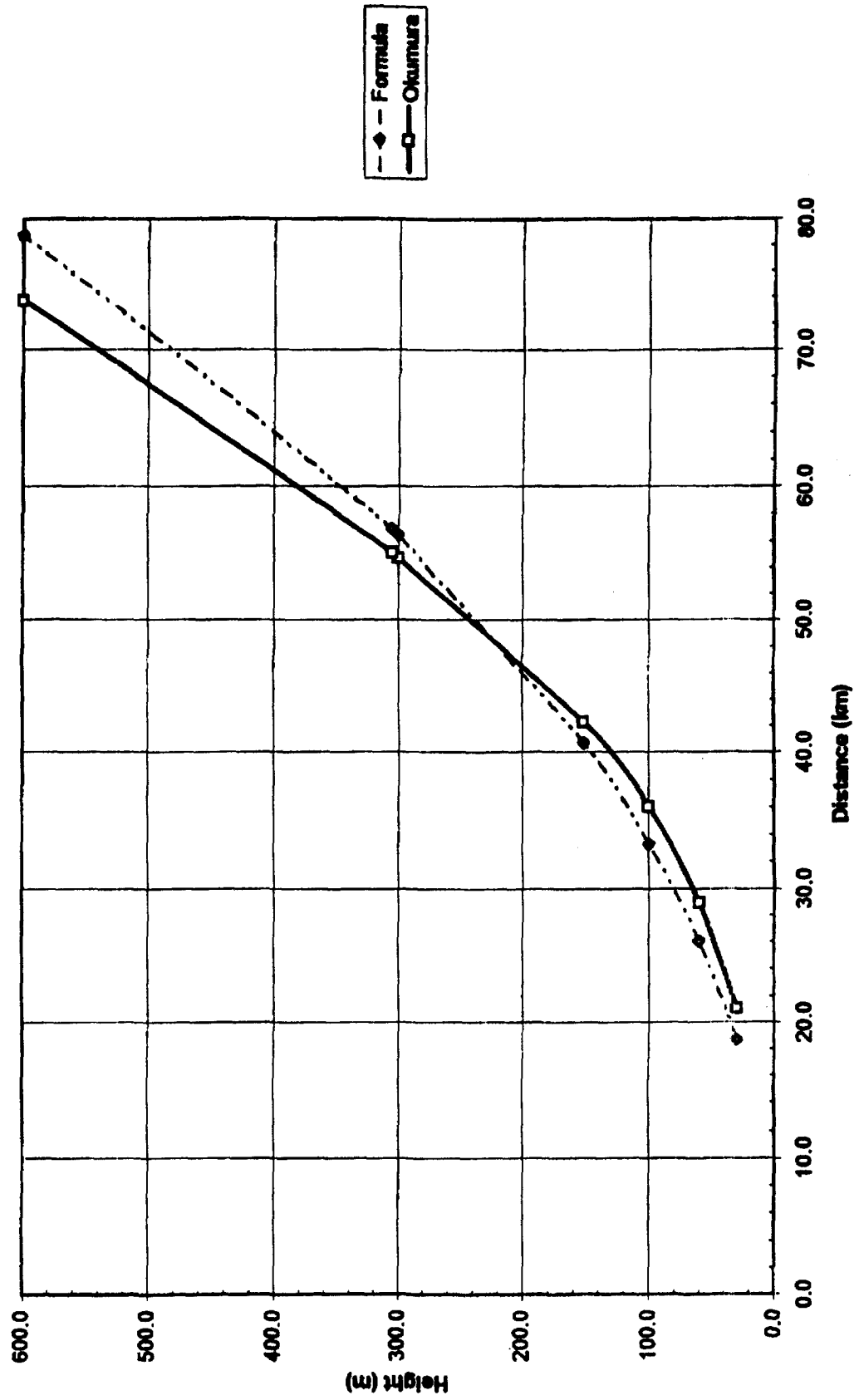
Attachment A graphs the proposed formulas against the Okumura curves for the same values.

Conclusion

The use of formulas to determine the distances to the reliable service and interference contours in the 930 MHz frequency range should be maintained. However, using a signal strength value of 47 dBμV/m is not technically sound. It is demonstrated above that the signal strengths for reliable service and interference level, using the methods of the lower frequency bands, are better defined at 33 dBμV/m and 7 dBμV/m respectively.

Attachment A
1 of 2

33.38 dBu Service for 931 MHz Paging (1000 watts ERP)



Attachment A
2 of 2

7.38 dBu Interference for 931 MHz Paging (1000 watts ERP)

